Air Quality Permitting
Statement of Basis

February 18, 2005

Tier I Operating Permit No. T1-040104

Moyie Springs Lumber Company, LLC, Moyie Springs

Facility ID No. 021-00001

Prepared by:

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AIR QUALITY DIVISION

FINAL PERMIT

Table of Contents

Acronyms, Units, and Chemical Nomenclatures

AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
EFB	Electrified Filter Bed
EPA	U.S. Environmental Protection Agency
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pound per hour
MACT	Maximum Achievable Control Technology
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_x	nitrogen oxides
NSPS	New Source Performance Standards
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PSD	Prevention of Significant Deterioration
PTC	permit to construct
Rules	Rules for the Control of Air Pollution in Idaho
SIP	State Implementation Plan
SO_2	sulfur dioxide
T/yr	tons per year
UTM	Universal Transverse Mercator
VOC	volatile organic compound

Public Comment / Affected States / EPA Review Summary

A 30-day public comment period for the Moyie Springs Lumber Company draft Tier I operating permit was held from September 2, 2004 through October 4, 2004 in accordance with IDAPA 58.01.01.364, *Rules for the Control of Air Pollution in Idaho*.

IDAPA 58.01.01.008.01 defines *affected states* as: *"All states: whose air quality may be affected by the emissions of the Tier I source and that are contiguous to Idaho; or that are within 50 miles of the Tier I source."*

A review of the site location information included in the permit application indicates that the facility is located with 50 miles of two state borders. Therefore, the states of Washington and Montana was provided an opportunity to comment on the draft Tier I operating permit.

Summary of Comments

No comments were received on the draft Tier I operating permit. A hearing was not requested.

After the public comment period, EPA was sent the proposed operating permit and the statement of basis for their 45-day review period. EPA did not provide any comments on the permit.

1. PURPOSE

The purpose for this memorandum is to satisfy the requirements of IDAPA 58.01.01.300, Rules for the Control of Air Pollution in Idaho, for issuing Tier I operating permits.

2. FACILITY DESCRIPTION

Logs are delivered by truck to the Moyie Springs facility, unloaded, and stored in the log yard. The logs are then transported from the log yard by truck and loaded onto the log deck by a dedicated crane. At the log deck, an infeeder sends the logs to one of two debarkers, which are the first step in the manufacturing process. Debarked logs are then trimmed to a desired length and transferred to the studmill. Sawing operations within the studmill reduce logs to the desired dimensions, and the lumber is then transferred to one of four kilns to be dried. After drying, the lumber is planed to final dimensions and trimmed to a marketable length. Lumber is then graded, waxed or inked, stacked, and banded. Finished lumber is shipped off-site, primarily by rail and also by truck.

3. FACILITY / AREA CLASSIFICATION

Moyie Springs Lumber Company is defined as a major facility because the CO, PM_{10}, and VOC emissions each exceed 100 tons per year. The AIRS classification is "A" because the emission of CO, PM_{10}, and VOC each exceed major source emission levels.

The facility is located within AQCR 63 and UTM zone 11. The facility is located in Boundary County which is designated as unclassifiable for all criteria pollutants (CO, PM_{10}, NO_x, SO_2, lead, and ozone).

The AIRS information provided in Appendix B defines the classification for each regulated air pollutant at Moyie Springs Lumber Company. This required information is entered into the EPA AIRs database.

4. APPLICATION SCOPE

Moyie Springs Lumber Company has submitted a request for a significant modification of their Tier I operating permit to remove the fuel burning equipment particulate standard from the EFB disengagement chamber baghouse.

The compliance plan was updated to reflect an extension of the permitting deadlines. Also, PTC 021-00001, issued July 23, 2001, has been reissued on August 18, 2003, as requested by the facility, because the facility had not yet commenced construction and the July 23, 2001 PTC was due to expire. This Tier I modification includes the reissued PTC.

Comments on the draft permit from the DEQ Coeur d'Alene Regional Office and from the facility were incorporated, including:

- Vehicle track-out clean-up requirement
- Increased fugitive dust monitoring (from quarterly to monthly)
- Revised boiler EFB (emission control equipment) monitoring requirement

4.1 Application Chronology

February 20, 2004	Application for Tier I modification received
April 9, 2004	Revised application received
April 13, 2004	Application declared complete
June 4, 2004	Facility draft permit sent to facility and to the Coeur d'Alene Regional Office
June 16, 2004	Comment received from facility
June 29, 2004	Comment received from the Coeur d'Alene Regional Office
August 3, 2004	Comments received from the Coeur d'Alene Regional Office and from the facility
August 20, 2004	Draft Tier I operating permit for public comment issued
September 2, 2004 - October 4, 2004	Public comment period
October 15, 2004 – December 10, 2004	EPA review period
December 6, 2004	Letter received from EPA stating that no review will be done

5. PERMIT ANALYSIS

This section of the Statement of Basis describes the regulatory requirements for this Tier I operating permit action.

5.1 Emissions Inventory

This modification does not result in a change in emissions.

5.2 Regulatory Review

This section describes the regulatory analysis of the applicable air quality rules with respect to this Tier I operating permit.

IDAPA 58.01.01.675 ..... Fuel Burning Equipment

This regulation establishes particulate matter emission standards for fuel burning equipment. Fuel burning equipment is defined in IDAPA 58.01.01.006.41 as "Any furnace, boiler, apparatus, stack and all appurtenances thereto, used in the process of burning fuel for the primary purpose of producing heat or power by indirect heat transfer."

Moyie Springs Lumber Company operates a wood-fired boiler. Emissions from this boiler are controlled by an electrified filter bed (EFB) fine dust collector. Dust particles from the boiler flue gas stream are given an electrostatic charge in the corona ionizer, then are deposited onto the surface of electrically polarized gravel. The flue gas stream, after passing through the EFB, is then emitted through a stack. Emissions from this EFB stack are subject to the fuel burning equipment regulation because the EFB is an appurtenance to the boiler.

The gravel in the EFB is removed from the filtration region and cleaned externally in a pneumatic conveyor. The dust from this gravel cleaning operation is conveyed to a small bag filter (the EFB disengagement chamber baghouse). The gravel is then returned to the EFB. The EFB disengagement

chamber baghouse emissions are not subject to the fuel burning equipment regulation because the baghouse is used for the EFB gravel cleaning operation and is not an appurtenance to the boiler.

Appendix A shows the EFB system general description.

IDAPA 58.01.01.700 ..... Particulate Matter - Process Weight Limitations

The purpose of Sections 700 through 703 is to establish particulate matter emission limitations for process equipment. The definition of process equipment, IDAPA 58.01.01.006.79, specifically excludes refuse-burning equipment. IDAPA 58.01.01.006.51 defines an incinerator, in part, as "Any source consisting of a furnace and all appurtenances thereto designed for the destruction of refuse by burning." Therefore, incinerators are not subject to IDAPA 58.01.01.700.

The emissions from the EFB disengagement chamber baghouse were evaluated to determine the applicability of the process weight limitation. The Moyie Springs Lumber Company tested the EFB disengagement chamber baghouse stack on September 12, 2003 for PM. The average PM emission rate measured by the test was 0.05 lb/hr. Because the emissions are less than one pound per hour, no monitoring of the process weight is required.

5.3 *Fee Review*

The Moyie Springs Lumber Company is a major facility as defined in IDAPA 58.01.01.008.10 and is therefore subject to registration and registration fees in accordance with IDAPA 58.01.01.387. The facility is current with its registration fees.

6. PERMIT CONDITIONS

This section lists only those permit conditions that have changed or have been deleted as a result of this permit revision. All other permit conditions remain unchanged. Permit conditions related to the revised permit are identified as Revised Permit Condition. Permit conditions which were added to the existing permit are identified as New Permit Condition.

New Permit Condition 1.2

A permit condition was added as follows:

"The permittee shall make every reasonable effort to routinely clean mud, dirt, or other material that is tracked out by vehicles onto paved public roadways from mill yard areas. If traffic on these paved public roadways is observed to be generating fugitive dust from material tracked out from mill property, the permittee shall promptly remove the material from the roadway."

This permit condition was written because there have been complaints from the public about dirt tracked out by the facility's vehicles onto the public road.

Revised Permit Condition 1.5

The fugitive dust inspection schedule has been increased from quarterly to monthly because of the public complaints about fugitive dust.

Revised Permit Conditions 1.2-1.13

The previous Permit Conditions 1.2 through 1.12 were renumbered to 1.3 through 1.13 to accommodate the new Permit Condition 1.2 for vehicle track-out.

Revised Permit Conditions 2.4 and 2.5

Because the EFB disengagement chamber baghouse is not subject to the fuel burning equipment regulation, Permit Conditions 2.4 and 2.5 have been modified to remove the requirement for source testing of the baghouse.

Revised Permit Condition 2.8

The facility is required to monitor and record voltage, amperes, and pressure drop for the EFB unit hourly. The following statement was added: "A minimum of 20 hourly readings shall be recorded per day." This allows for an occasional upset condition, such as a fire in a stoker, which causes the operator to miss a reading or two without being a violation of the permit. This wording was also used in the Riley Creek Laclede permit.

Revised Permit Condition 2.9

This permit condition was modified to remove references to source testing of the EFB disengagement chamber baghouse and to change the requirement from showing compliance with the grain loading standard to showing compliance with the visible emission standard.

Revised Permit Condition 4 - Compliance Schedule

The compliance plan has been updated to show the facility's name change and to show Department of Environmental Quality (DEQ) -granted extensions to the deadlines. A letter dated September 5, 2003 from DEQ granted a one-year extension to permit application deadlines specified in Permit Conditions 4.2 and 4.3.

7. PUBLIC COMMENT

A facility draft permit was sent to the facility on June 7, 2004. Comments were received on June 16, 2004 and August 3, 2004. The changes were made as requested. One comment requested verification that the compliance test of the EFB primary stack fulfills the requirement for compliance testing. A letter from DEQ dated April 2, 2004 verifies that the testing requirement specified for the EFB primary stack in Permit Condition 2.4 has been fulfilled. An e-mail from Tom Harman of the DEQ Coeur d'Alene Regional Office to Carole Zundel of the DEQ State Office verifies that the testing requirement specified by Permit Condition 2.5 has been fulfilled.

Comments from the DEQ Coeur d'Alene Regional Office on the draft permit were received on June 29, 2004 and August 3, 2004. The comments were incorporated.

An opportunity for public comment period on the Tier I operating permit signification modification application was provided, in accordance with IDAPA 58.01.01.364, from September 2, 2004 through October 4, 2004. During this time, there were no comments on the application and no requests for a public comment period on DEQ's proposed action.

8. RECOMMENDATION

Based on review of application materials and all applicable state and federal rules and regulations, staff recommend that Moyie Springs Lumber Company be issued Tier I operating permit No. TI-040104 for the modification of the EFB disengagement chamber baghouse stack requirements. The project does not involve PSD requirements.

Appendix A

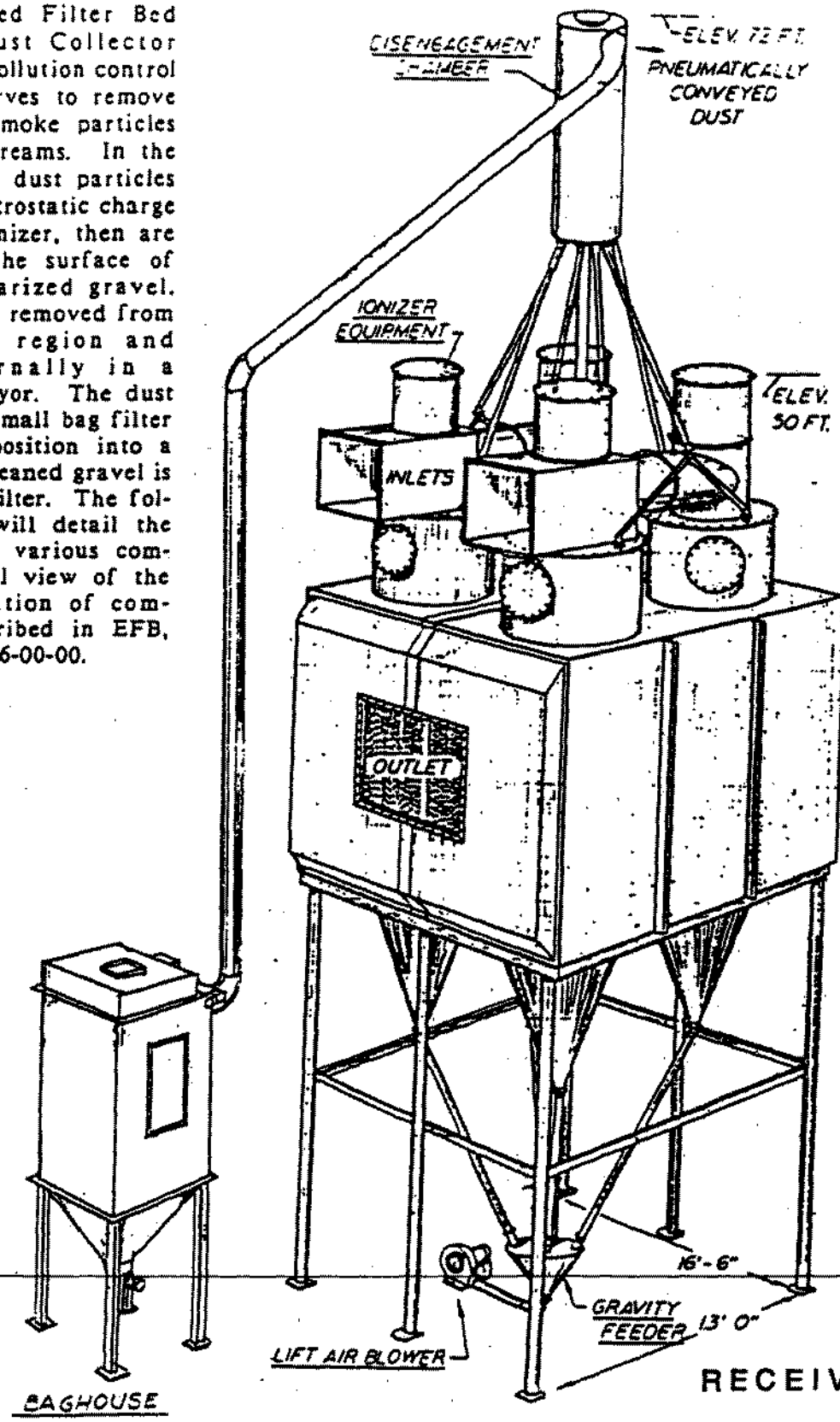
Moyie Springs Lumber Company LLC, Moyie Springs

EFB System General Description

EFB SYSTEM GENERAL DESCRIPTION

OVERVIEW

The Electrified Filter Bed (EFB) Fine Dust Collector (FDC) is an air pollution control device which serves to remove fine dust and smoke particles from flue gas streams. In the system, the fine dust particles are given an electrostatic charge in the corona ionizer, then are deposited onto the surface of electrically polarized gravel. The pea gravel is removed from the filtration region and cleaned externally in a pneumatic conveyor. The dust is conveyed to a small bag filter for ultimate deposition into a hopper and the cleaned gravel is returned to the filter. The following sections will detail the operation of the various components. General view of the system and location of components are described in EFB, Inc. Dwg. No. E156-00-00.



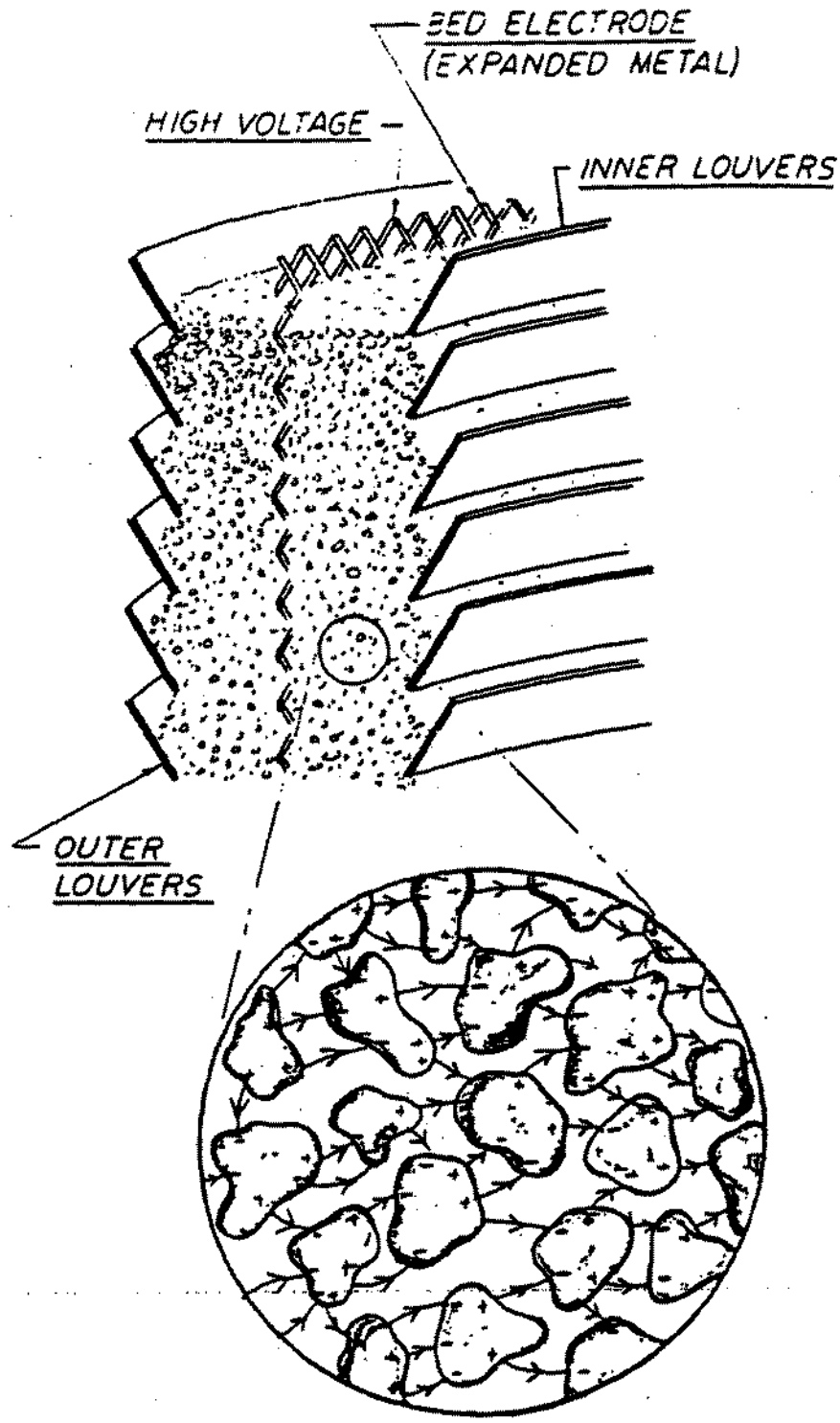
FILTER BED

Pea shaped gravel is held between front and rear louver sets to form the filter bed. The louver structure provides large non-fouling passages for the gas while retaining gravel by its angle of repose. The louvers are electrically grounded. A cylindrical expanded metal sheet is suspended between the louver sets and held at a high DC positive voltage. The voltage polarizes the gravel, inducing alternate caps of positive and negative charge on the stones.

After passing through the ionizer, the exhaust gas flows down the chamber inside the inner louvers and then outwardly through the annular filter bed. As it does, the negatively charged dust particles are attracted and attached to the positively charged caps on the stones. Cleaned gas collects in the outlet plenum and exits the system.

As dust accumulates in the filter bed, it fills the pore spaces and increases the filter's resistance to flow. To maintain constant gas flow pressure drop across the system, the gravel is slowly and continuously removed from the filter bed. The bottom hopper assures uniform gravel flow around the annular filter. Clean gravel is provided to the upper hopper which is operated in a flooded condition. Gravel feed rate is determined by removal from below.

Pressure drop across the filter bed is monitored and alarmed if it goes high. Gravel recucle rate is set to maintain a constant pressure drop. Flue gas temperature at the filter bed is also monitored and alarmed to prevent operation at temperatures below dewpoint.

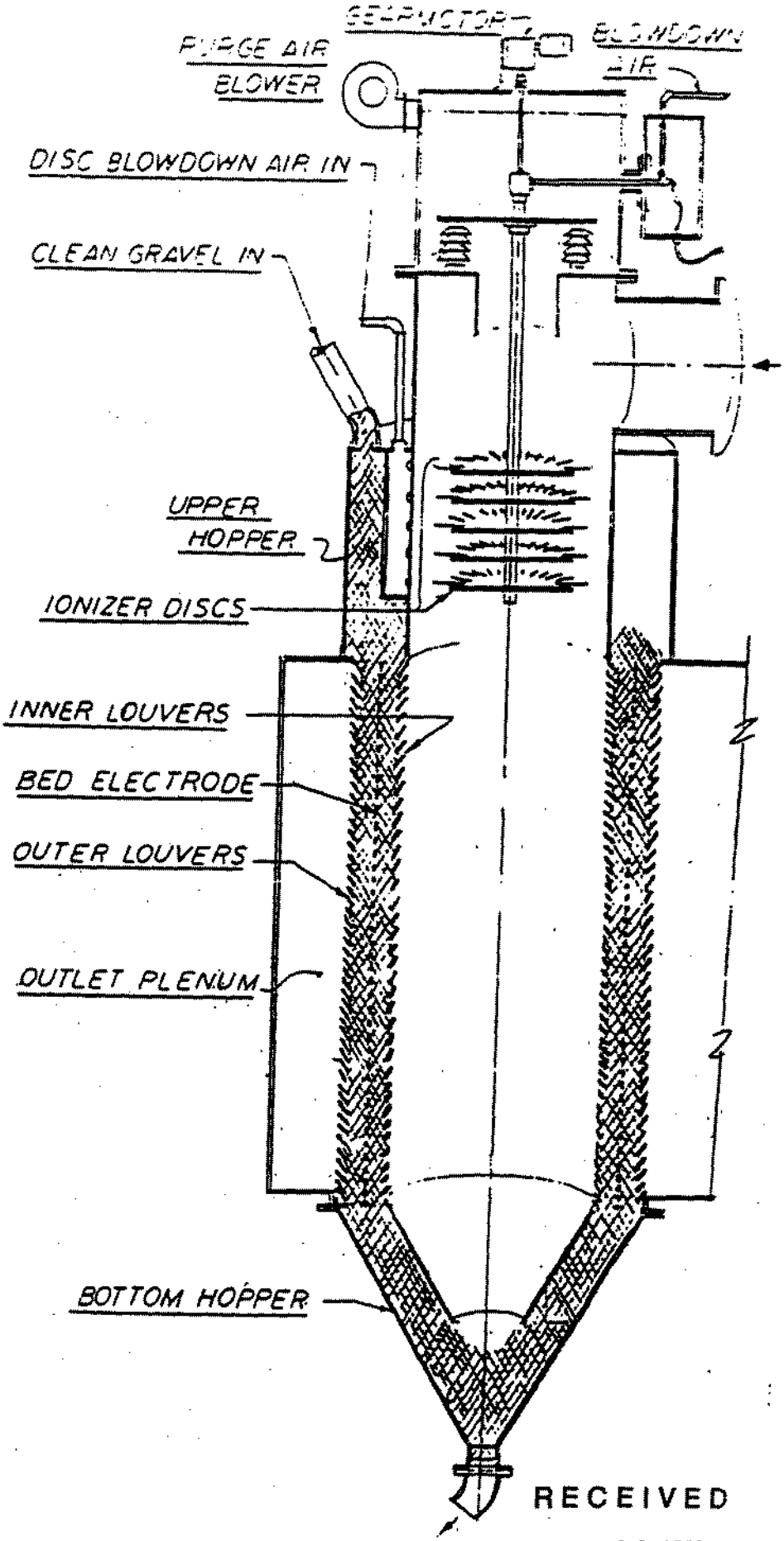


IONIZER

The exhaust gas stream laden with dust enters the system as shown. It turns downward where it passes through an annular region formed by several discs suspended inside a metal tube. Sharp pointed needles protrude from the disc edges. The metal tube is electrically grounded while the discs are held at a high DC negative voltage. A corona discharge from the needle points create ions which stream from the needle points to the surrounding tube. These ions attach to, and as a result electrostatically charge the dust particles as they pass by.

Dust accumulates on the needles and tube, impeding the ionization process. A set of air blowdown nozzles are provided to clean important areas. Nozzles located on the tube wall are pointed at the needles of each disc and nozzles on the discs are pointed at the tube wall. Compressed air is supplied to these nozzles periodically on a automatically timed cycle. Simultaneously the disc hanger assembly is rotated slowly by a gearmotor drive which allows the compressed air to clean dust from the entire circumference of the wall and needles.

The rotating machinery, support insulators , compressed air, and electrical connection for the ionizer assembly are enclosed in the ionizer cap. The support shaft for the discs extends through a purge air channel into the hot gas region. The ionizer cap is equipped with a purge air blower which provides clean air to the ionizer cap and down through the purge air channel keeping all mechanical components and electrical insulators clean and cool. Loss of purge air is alarmed.



GRAVEL CLEANING

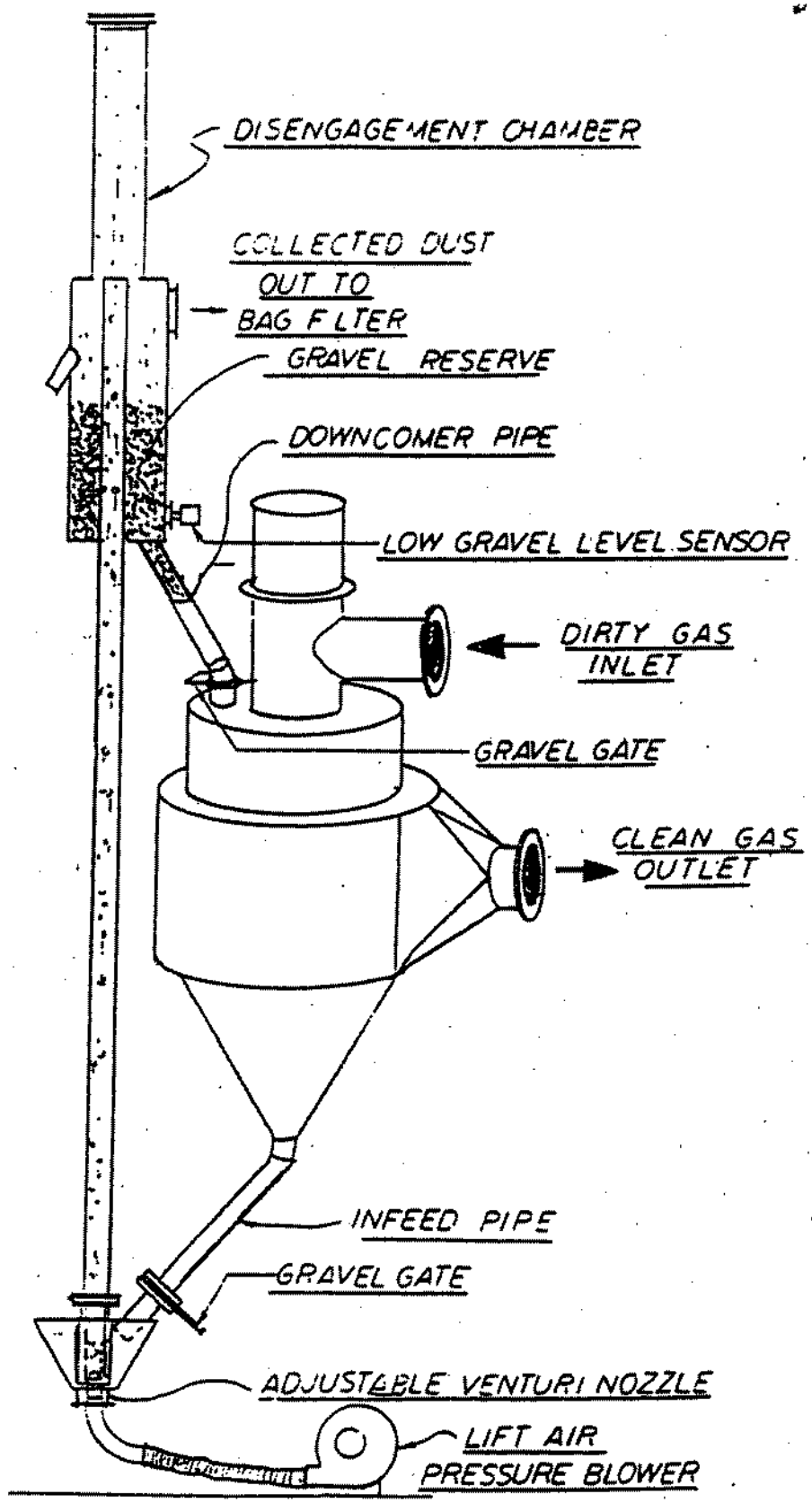
The purpose of this equipment is to clean the gravel and elevated it to the top of the filter bed for reuse. Gravel is carried from the bottom hopper to the feeder via the infeed pipe. The infeed pipe, flooded with gravel, acts as an air pressure seal between the feeder and the filter bed. They are equipped with shutoff valves to allow isolation of the feeder.

The feeder regulates the gravel recycle rate and carries gravel to the base of the lift line. Lift air is supplied by the lift line blower through a venturi nozzle to the lift line. The venturi creates negative pressure in the feeder, which aspirates dust into the lift line through a slot in the pipe. Gravel recirculation rate is determined by the vertical position of the venturi nozzle. Lowering the nozzle opens a greater slot area for the gravel to flow through.

Violent agitation in the lift line, as the gravel is pneumatically conveyed, dislodges dust. The section of lift pipe just above where gravel is introduced is subject to wear and is made of abrasion resistant cast basalt lined pipe.

The lift line discharges into the disengagement chamber which provides a decrease in air velocity. The cleaned gravel falls into the gravel reserve hopper while the dust is conveyed with the lift air out to the bag filter. A low gravel level indicator is provided at the bottom of the reserve hopper.

Clean gravel returns to the filter as required thru the downcomer pipes. The downcomer pipes also act as air pressure seals between the disengagement chamber and the filter. They are equipped with shutoff valves to allow isolation of individual filter beds.



BAGHOUSE

The dust collecting baghouse is a conventional pulse jet bag filter. It is equipped with a fan to provide draft from the disengagement chamber to the bag filter. A negative static pressure should be maintained on the disengagement chamber at all times to assure dust removal to the baghouses. Dust is collected on the bags and, at timed intervals the bags are pulsed with compressed air to dislodge the accumulated dust layer. An adjustable solid state timer sequencer is provided to control pulsing intensity and frequency.

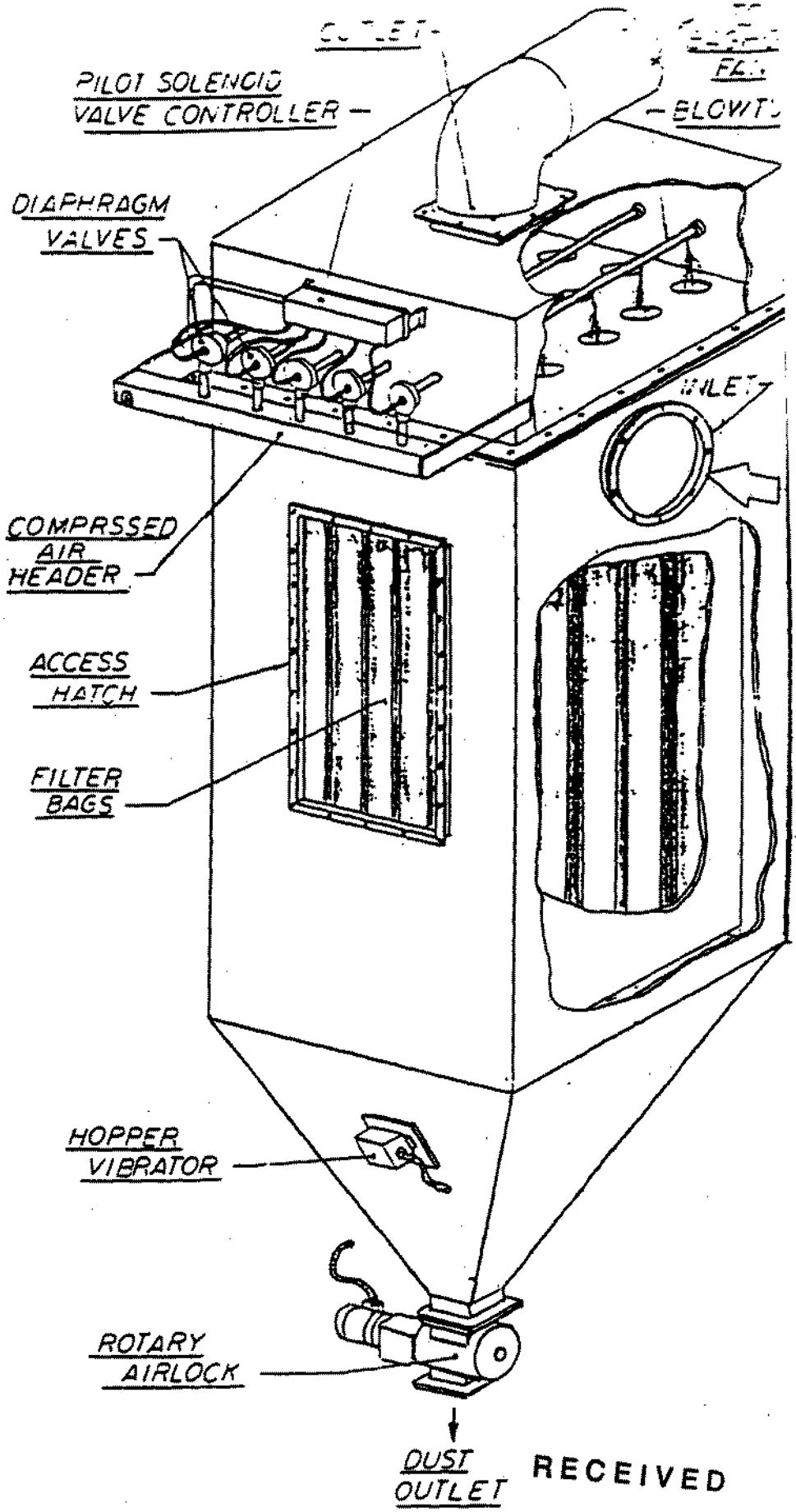
The agglomerated dust falls to the bag filter bottom hopper where it is discharged through a rotary air lock feeder to the customer's receptacle. An electric hopper vibrator on an automatically timed cycle is provided to assist dust flow from the hopper.

Pressure drop across the baghouse is monitored and alarmed.

OTHER EQUIPMENT

High voltage transformer rectifier sets are provided for each ionizer and each filter bed. Each HVTR is equipped with magnetic hydraulic circuit breakers and current limiting reactors on the primary. Ionizer HVTR's are also equipped with variable autotransformer control. All high voltage outputs are monitored for voltage and current and provided with automatic timed reset overcurrent tripouts and annunciation.

A hopper external to the EFB system is provided to store gravel for periodic makeup when required as indicated by the low gravel level indicator. It is equipped with a feed pipe and shutoff valve to allow gravel to be fed into the gravel feeder while the EFB system is online.



Appendix B

Moyie Springs Lumber Company LLC, Moyie Springs

AIRS Data

AIRS/AFS[a] FACILITY-WIDE CLASSIFICATION[b] DATA ENTRY FORM

Facility Name: Moyie Springs Lumber Company LLC
Facility Location: Moyie Springs
AIRS Number: 021-00001

SO_2	B							U
NO_x	B							U
CO	A						A	U
PM_{10}	A						A	U
PT (Particulate)	A						A	U
VOC	A						A	U
THAP (Total HAPs)	B							
			APPLICABLE SUBPART					

[a] Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS)

[b] AIRS/AFS Classification Codes:

A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For HAPs only, class "A" is applied to each pollutant which is at or above the 10 T/yr threshold, or each pollutant that is below the 10 T/yr threshold, but contributes to a plant total in excess of 25 T/yr of all HAPs.

SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.

B = Actual and potential emissions below all applicable major source thresholds.

C = Class is unknown.

ND = Major source thresholds are not defined (e.g., radionuclides).